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10/775,227	02/11/2004	Kazuo Nishihama	A8319.0032/P032	1183
24998	7590	08/18/2004	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			NGUYEN, HANH N	
2101 L STREET NW			ART UNIT	
WASHINGTON, DC 20037-1526			PAPER NUMBER	
			2834	

DATE MAILED: 08/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/775,227

Applicant(s)

NISHIHAMA ET AL.

Examiner

Nguyen N Hanh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 12-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 12, the limitation “a switch for applying to the stator coils voltage of a commercial three-phase AC power supply **with** a commercial frequency remaining intact” was not described in the specification.

Claims 13-18 are dependent claims of claim 12

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Steen.

Regarding claim 1, Steen discloses a rotating electrical machine (12 in Fig. 3) comprising a rotor core (13), a plurality of rotor slots (aperture 100) radially provided at predetermined spaces in a circumferential direction of the rotor core, and a plurality of rotor conductors (Column 10, line 19), respectively,

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received in the rotor slots, wherein the rotor conductors comprise: a rotor conductor upper portion, which positioned near to an outer periphery of a rotor, and a cross sectional shape of which tapers continuously toward the outer periphery of the rotor, and a rotor conductor lower portion, which is contiguous to the rotor conductor upper portion to be positioned nearer to a center of the rotor than the rotor conductor upper portion, and a cross sectional shape of which is made rectangular to have substantially the same width as that of a bottom of the rotor conductor upper portion (Fig. 9).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3-7, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steen.

Regarding claims 3, 4, 10 and 11 Steen shows all limitations of the claimed invention except showing the rotating electrical machine wherein the rotor conductor upper portion made of brass has a height of not less than 27 mm (or the conductor upper portion has a height of 27 mm to 46 mm as in claims 4 and 11).

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to make the conductor upper portion

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with brass, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Moreover, It would have been obvious to one having ordinary skill in the art at the time the invention was made to make a conductor upper portion height of not less than 27 mm (or the conductor upper portion has a height of 27 mm to 46 mm as in claims 4 and 11), since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 5, Steen shows the rotor conductor upper portion made of copper (Col. 3, line 63). However, Steen fails to show the rotor conductor upper portion has a height of not less than 7 mm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make a conductor upper portion height of not less than 7 mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 6 and 7, Steen shows the rotor conductor upper portion made of copper (Col. 3, line 63). However, Steen fails to show the rotor conductors have a total height of not less than 60 mm (or less than 30 mm as in claim 7) and the rotor conductor upper portion has a height of 7 to 44 mm (or a height of 7 to 17.5 mm as in claim 7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make a rotor conductors have a total height of not less than 60 mm (or less than 30 mm as in claim 7) and the rotor conductor upper portion has a height of 7 to 44 mm (or a height of 7 to 17.5 mm as in claim 7, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steen.

Regarding claim 8, Steen shows all limitations of the claimed invention (refer to the rejection of claim 1) except showing the conductor upper portion made of brass.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to make the conductor upper portion made of brass, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

5. Claims 2 and 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steen in view of Maslennikov et al.

Regarding claim 2, Steen shows all limitations of the claimed invention except showing the rotor conductor upper portion has a trapezoidal, cross sectional shape.

However, Maslennikov et al. disclose a squirrel cage rotor wherein the conductor has a trapezoidal, cross sectional shape for the purpose of keeping the conductor from getting loose.

Since Steen and Maslennikov et al. are in the same field of endeavor, the purpose disclosed by Maslennikov et al. would have been recognized in the pertinent art of Steen.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Steen by making conductor upper portion has a trapezoidal, cross sectional shape as taught by Maslennikov et al. for the purpose of keeping the conductor from getting loose.

6. Claims 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steen in view of Satake.

Regarding claim 12, Steen discloses a drive system of a cage induction motor (abstract) comprising a stator core (14 in Fig. 3), a plurality of stator slots radially provided at predetermined spaces and around an inner periphery of the stator core, a stator comprising stator coils (16) received in the stator slots, a rotor core (13), a plurality of rotor slots radially provided at predetermined spaces in a circumferential direction of the rotor core, a cage induction motor comprising rotor conductors received in the rotor slots, a power supply for supplying three-phase alternating current to the cage induction motor: wherein the rotor conductors comprising a rotor conductor upper portion, which is positioned near to an outer periphery of a rotor, and a cross sectional shape of which tapers continuously toward the outer periphery of the rotor, and a rotor

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conductor lower portion, which is contiguous to the rotor conductor upper portion to be positioned nearer to a center of the rotor than the rotor conductor upper portion, and a cross sectional shape of which is made rectangular to have substantially the same width as that of a bottom of the rotor conductor upper portion (Fig. 9). Steen fails to show a power supply for supplying three-phase alternating current to the cage induction motor and a switch for applying to the stator coils voltage of a commercial three-phase AC power supply with a commercial frequency remaining intact.

However, Satake discloses a squirrel cage rotor using a power supply for supplying three-phase alternating current to the cage induction motor and a switch for applying to the stator coils voltage of a commercial three-phase AC power supply with a commercial frequency remaining intact (Col. 13, lines 1-10) for the purpose of controlling the motor.

Since Steen and Satake are in the same field of endeavor, the purpose disclosed by Satake would have been recognized in the pertinent art of Steen.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Steen by using a power supply for supplying three-phase alternating current to the cage induction motor and a switch for applying to the stator coils voltage of a commercial three-phase AC power supply with a commercial frequency remaining intact as taught by Satake for the purpose of controlling the motor.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steen in view of Satake and further in view of Maslennikov et al.



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Regarding claim 13, Steen and Satake show all limitations of the claimed invention except showing the rotor conductor upper portion has a trapezoidal, cross sectional shape.

However, Maslennikov et al. disclose a squirrel cage rotor wherein the conductor has a a trapezoidal, cross sectional shape for the purpose of keeping the conductor from getting loose.

Since Steen, Satake and Maslennikov et al. are in the same field of endeavor, the purpose disclosed by Maslennikov et al. would have been recognized in the pertinent art of Steen and Satake.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Steen and Satake by making conductor upper portion has a trapezoidal, cross sectional shape as taught by Maslennikov et al. for the purpose of keeping the conductor from getting loose.

8. Claims 14-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steen in view of Satake.

Regarding claims 14, Steen and Satake show all limitations of the claimed invention except showing the rotating electrical machine wherein the rotor conductor is made of brass the rotor conductor upper portion has a height of not less than 27 mm.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to make the conductor with brass, since it has been held to be within the general skill of a worker in the art to select a

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known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Moreover, It would have been obvious to one having ordinary skill in the art at the time the invention was made to make a conductor upper portion height of not less than 27 mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 15, Steen shows the rotor conductor upper portion made of copper (Col. 3, line 63). However, Steen fails to show the rotor conductor upper portion has a height of not less than 7 mm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make a conductor upper portion height of not less than 7 mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 16, Steen and Satake show all limitations of the claimed invention except showing the rotor conductor upper portion is made of brass and the rotor conductor lower portion is made of copper.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to make the rotor conductor upper portion with brass and the rotor conductor lower portion with copper, since it has been held to be within the general skill of a worker in the art to select a known

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material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 18, Steen and Satake show all limitations of the claimed invention except showing the rotating electrical machine wherein the rotor conductor upper portion made of brass has a height of not less than 27 mm.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to make the conductor upper portion made of brass, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Moreover, It would have been obvious to one having ordinary skill in the art at the time the invention was made to make a conductor upper portion height of not less than 27 mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steen in view of Satake and further in view of Maslennikov et al.

Regarding claim 17, Steen and Satake show all limitations of the claimed invention except showing the rotor conductor upper portion has a trapezoidal, cross sectional shape and made of brass.

However, Maslennikov et al. disclose a squirrel cage rotor wherein the conductor has a trapezoidal, cross sectional shape for the purpose of keeping the conductor from getting loose.

Since Steen, Satake and Maslennikov et al. are in the same field of endeavor, the purpose disclosed by Maslennikov et al. would have been recognized in the pertinent art of Steen and Satake.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Steen and Satake by making conductor upper portion has a trapezoidal, cross sectional shape as taught by Maslennikov et al. for the purpose of keeping the conductor from getting loose.

Moreover, it would have been obvious at the time the invention was made to a person having an ordinary skill in the art to make the rotor conductor upper portion with brass, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (571) 272-2031. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner 's supervisor, Darren Schuberger, can be reached on (571) 272-2044. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HNN

August 16, 2004

A handwritten signature in black ink, appearing to read "Dong Le". The signature is fluid and cursive, with the first name "Dong" written in a larger, more prominent script than the last name "Le".

**DANG LE**  
**PRIMARY EXAMINER**